



Appl. No. 10/732,769
Response Dated July 19, 2005
Reply to Office action dated April 22, 2005

Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims

1-37. (Canceled)

38. (Currently Amended) A separator tank for a main pump, the separator tank comprising:

a[[n]] main inlet for receiving pump fluid for the pump;

a main outlet for providing pump fluid to the pump;

a reservoir having an interior for accommodating pump fluid between the main inlet and the main outlet;

a first [[an]] air port in fluid communication with the interior of the reservoir, the first air port positioned above an expected level of the pump fluid in the reservoir;

a second air port in fluid communication with the interior of the reservoir, the second air port positioned above the expected level of the pump fluid in the reservoir;

a first valve coupled to the first air port for selectively fluidly coupling the first air port to a vacuum pump;

a second valve coupled to the second air port for selectively fluidly coupling the second air port to atmosphere; and

a sensor for sensing a level of pump fluid in the reservoir, the sensor providing an electrical signal that provides an indication of the level of pump fluid in the reservoir which is used, at least in part, to control the first valve.

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39. (Currently Amended) A separator tank according to claim [[1]] 38 wherein the ~~electronic~~ sensor is an electro-mechanical sensor.

40. (Currently Amended) A separator tank according to claim [[1]] 38 wherein the ~~electronic~~ sensor is a temperature sensor.

41. (Currently Amended) A separator tank according to claim [[1]] 38 wherein the ~~electronic~~ sensor is a conductivity sensor.

42. (Currently Amended) A separator tank according to claim [[1]] 38 wherein the ~~electronic~~ sensor is a pressure sensor.

43. (Currently Amended) A separator tank according to claim [[1]] 38 wherein the ~~electronic~~ sensor is an optical sensor.

44. (Currently Amended) A separator tank according to claim [[1]] 38 wherein the sensor is provided along a side wall of the reservoir.

45. (Currently Amended) A separator tank according to claim [[1]] 38 wherein the sensor is provided adjacent a side wall of the reservoir.

46. (Currently Amended) A separator tank according to claim [[1]] 38 wherein the sensor includes a float.

47. (Currently Amended) A separator tank according to claim [[1]] 38 wherein the sensor provides an electrical signal that indicates if the level of pump fluid in the reservoir exceeds a predetermined level or not.

48. (Currently Amended) A separator tank according to claim [[1]] 38 wherein the sensor provides an electrical signal that indicates a level of pump fluid in the reservoir along a range of levels.

49. (Currently Amended) A separator tank for a main pump, the separator tank comprising:

a[[n]] main inlet for receiving pump fluid for the pump;
a main outlet for providing pump fluid to the pump;
a reservoir for accommodating pump fluid between the main inlet and the main outlet;
the reservoir having a main reservoir with a shoulder that extends to a main reservoir top,
and a reservoir extension extending up from the main reservoir top, the reservoir extension positioned above an expected level of the pump fluid in the reservoir and having a substantially reduced cross-sectional area relative to the main reservoir; and
an air port in fluid communication with the reservoir extension.

50. (Currently Amended) A separator tank according to claim [[12]] 49 wherein the reservoir extension extends from the main reservoir top ~~of the main reservoir~~ in an upward direction.

51. (Currently Amended) A separator tank according to claim [[13]] 50 wherein the air port is positioned at the top of the reservoir extension.

52. (Currently Amended) A separator tank according to claim [[12]] 49 wherein the air port is at least selectively in fluid communication with a vacuum pump.

53. (Currently Amended) A separator tank according to claim [[12]] 49 further comprising a deflector positioned adjacent to, but spaced from, the air port, the deflector for deflecting pump fluid that is directed at the air port.

54. (Previously Presented) A pump comprising:
a separator tank having a main inlet for receiving pump fluid for the pump, a main outlet for providing pump fluid to the pump, a reservoir for accommodating pump fluid between the main inlet and the main outlet, an air port in fluid communication with the reservoir, the air port positioned above an expected level of the pump fluid in the reservoir, and a sensor for sensing a level of pump fluid in the reservoir, the sensor providing an electrical signal that provides an

indication of the level of pump fluid in the reservoir;

a vacuum pump for providing a vacuum;

a valve having a first position and a second position, the first position fluidly connecting the vacuum pump to the air port of the reservoir and the second position fluidly connecting the vacuum pump to atmosphere;

a sensor for sensing a level of pump fluid in the reservoir; and

a controller coupled to the sensor and the valve, the controller providing a delay after the sensor senses a level of pump fluid in the reservoir before switching the valve from the first position to the second position and/or between the second position to the first position.

55. (Currently Amended) The pump of claim [[17]] 54 wherein the controller provides a delay after the sensor senses a first predetermined level of pump fluid in the reservoir before switching the valve from the first position to the second position.

56. (Currently Amended) The pump of claim [[18]] 55 wherein the controller provides a delay after the sensor senses a second predetermined level of pump fluid in the reservoir before switching the valve from the second position to the first position.

57. (Currently Amended) The pump of claim [[19]] 56 wherein the first predetermined level is higher than the second predetermined level.

58. (New) A separator tank for a main pump, the separator tank comprising:
- a main inlet for receiving pump fluid for the pump;
 - a main outlet for providing pump fluid to the pump;
 - a reservoir for accommodating pump fluid between the main inlet and the main outlet;
 - an air port in fluid communication with the reservoir, the air port positioned above an expected level of the pump fluid in the reservoir;
 - a valve having a first position and a second position, the first position fluidly connecting the air port to a vacuum pump and the second position fluidly connecting the vacuum pump to atmosphere; and
 - a sensor for sensing a level of pump fluid in the reservoir, the sensor providing an electrical signal that provides an indication of the level of pump fluid in the reservoir which is used, at least in part, to control the position of the valve.